How to plan for the Highly Infectious Disease Patient

Shelly Schwedhelm, MSN, RN, NEA-BC Executive Director, Emergency Preparedness & Infection Prevention

> University of Nebraska Medical Center



Financial Disclosures

Shelly Schwedhelm, MSN, RN, NEA-BC

■No financial relationships to disclose



Session Objectives

- Describe the "all hazards" approach used to plan for the care of highly infectious disease (HID) patients
- Understand how the Hospital Incident Command System (HICS) structure can be used in the care of highly infectious disease patients
- Describe the required elements of preparedness to effectively respond to care for highly infectious disease patients
- Describe key elements necessary to sustain readiness to care for highly infectious disease patients
- Define next steps in the goal of building national resilience to successfully manage an influx of highly infectious disease patients.

"When you have to make a choice and don't make it, that is in itself a choice"

William James

For an entire decade.....

Preparedness was our Choice!



Biocontainment Unit

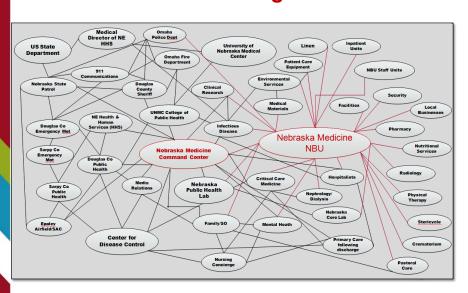
Nebraska Medicine

- 5 rooms/10 beds. Opened in 2005
- · Adult and Pediatric capable

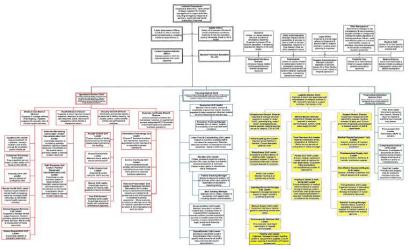




Nebraska Biocontainment Unit Activation it takes a village.....



HICS Organizational Chart





Incident Commander

Organize and direct the Hospital Command Center.

Give overall strategic direction for Incident management and support activities, including emergency response and recovery

- Oversee and convene command structure
- Implement Biocontainment Unit activation checklist
- Interagency coordination during transport
- Identify Medical Specialist Role (Infectious Disease MD)
- Identify Campus Mitigation Strategies
- Collaborate with community and national agencies as needed (eg. health dept; CDC; etc.)
- Determine Planning Cycle and define routine briefing times
- Collaborate with research leaders to access experimental drugs if needed



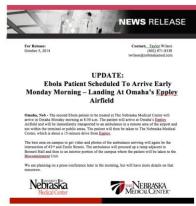
HID Go Kit

Public Information Officer (PIO)

Conduit for information to internal and external stakeholders, including media as approved by Incident Command.

- Risk Communication Strategies
- Determine internal and external messages
- Collaborate with medical staff and family on messaging
- Establish information lines/hotlines
- Monitor and manage social media







Operations

Develop and implement strategy and tactics to carry out objectives established by Incident Command. Organize, assign, and supervise Medical Care, Security, HazMat, and Business Continuity.

- Surge capacity plan
- Just in Time Personal Protective Equipment (PPE) training
- > Staffing backfill plan
- > Special project team (s)
 - > Protocol updates
 - New issue process/procedure development
- Morgue Plan
- Laboratory Plan
- Behavioral Health Plan



Planning

Oversee all incident-related data gathering and analysis regarding incident operations and resources; develop alternatives for tactical operations, conduct planning meetings, and prepare Incident Action Plan for each operational period.

- > Define Incident Action Plan Objectives
- > IT screening tool development for entry areas of health system
- Define plans for evacuation, severe weather, etc. if needed
- Medical record audits
- Occupational Health Support for Temperature Monitoring
- ➤ HR issues requiring resolution
- Care of the family-nurse concierge

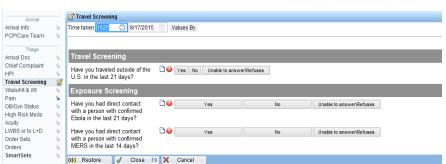




Screening



"Let me guess...it's contagious!"





Logistics



Responsible to organize and direct operations associated with maintenance of physical environment, materiel and service support activities.

- > Waste Management Plan
- > Facilities Plan (negative pressure, HVAC, etc.)
- Security Plan (transport, unit security)
- ➤ Biomed Plan (autoclave and other equipment)
- > PPE management (# sets on hand, back orders, etc.)
- ➤ Linen Plan (scrubs, linens)
- > Food Plan (patient and staff)
- > Supply & Medication lists and availability



Finance



Finance Section Chief is to monitor utilization of assets and accounting for expenditures.

Supervise documentation of expense and cost reimbursement.

- Cost center development
- Expense tracking
- > Charge code development
- Funds flow, fast track purchases as needed for equipment



Leadership Matters.... NBU Leadership Team





Staffing the Unit

Candidates:

- ➤Voluntarily apply to be on the team as a secondary job position within Nebraska Medicine
- ➤Interviews conducted by nursing director and manager
- ➤ Each candidate must display
 - >Strong clinical stills
 - ➤ Ability to remain calm in stressful situations
 - ➤ Ability to learn quickly
 - ➤ Are flexible in their work details
 - ➤Strong sense of team effort





NBU Team

NBU Staff

Physicians
Registered Nurses
Respiratory Care Practitioners
Patient Care Technicians

All Staff Volunteer to join the team Combined Skills/ Specialties

Critical Care
Operating Room/ Procedural
Infusion Services
Medical/ Surgical
Emergency/ Trauma Care
Pediatrics
Labor and Delivery
Special Procedures
Education
Cardiac Telemetry

Core Support Staff

Critical Care Medical Team
Consulting Physicians
Public Health Lab Scientists
Core Lab Technicians
Radiology Practitioners
Environmental Services
Inventory Analysts
Security
Administrative Staff
Assistants

Beyond NM

Douglas County Public Health
Nebraska Department of
Health and Human Services
Omaha Fire Department
Omaha Police Department
OMMRS and more

Education, Drills and Training

NBU staff maintain clinical competency within their primary units

Biocontainment Unit education consists of educating clinicians to be proficient while working in a high level infection control environment

This is achieved through

- Staff Meetings
- Equipment Training
- Drills
- Reviewing and developing Protocols/ Procedures
- > Skill competency checklists





Education, Drills and Training



Infants



Pediatrics

All age groups



Adults



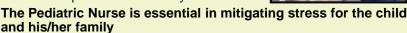
Pediatric Preparedness



Pediatric Nurses

Pediatric Nurses must:

- Adapt assessment skills for different age children
- Be aware signs/symptoms organ dysfunction/failure
- Respond immediately



- Nurses spend more time with the child and family than any other health care team member
- Nurses provide valuable input to other team members in how to approach the child and family
- Nurses are in a key position to help the child and family with coping strategies



Supply List 0-1 Years

Infant/Pediatric stethoscope

Isolette//Warmer/Crib and crib linen

Age appropriate toys

Diapers sizes newborn-3 (depending upon weight)

Infant scale; Diaper scale

Sterile bottles and regular -flow nipples/Sippy cups/pacifiers

*consider use of donor human milk if mom breastfeeding

Oral syringes 1ml,3ml,5ml,10ml

EGG leads and Cable

6F, 8F, 10F NG tubes

Feeding tubing

10ml syringes with blunt tip connectors for indirect blood draws

Infant ambu bag

20-60ml IV syringes

Small mask

Pediatric Code Cart

NICU/PEDS Alaris Pumps (mamas and babies)

Alaris 3 port IV tubing

24G 5/8" and 24G 7/8" Insyte IV catheters

CHG CL dressing change kits w/o dressing; order size 1660 CHG dressing separately

NC/O2 tubing

Sterile water for humidified O2

Emergency Drug Sheet

Education, Drills and Training



Radiology Department



Multiple Scenarios and Partners

Local Responders and the United States Air Force



Operating Room Staff - Care of a PUI

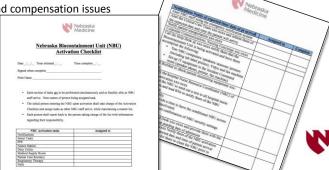


Provider Down Policy



Readiness Strategies

- ➤ Use of "Just in Time" Checklists
- Identify strategy to backfill nursing staff when activated
- Identify physician strategies
 - Attend to depth of Infectious Disease and Critical Care Medicine physicians
 - Recruit and orient staff in other specialties before needed (eg. nephrology)
 - Address backfill issues in advance
 - **RVUs** and compensation issues







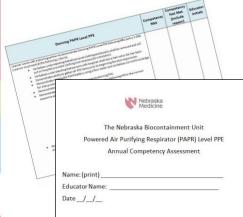
Sharing our Knowledge/ Best Practices

Prior to and during the NBU activations, NBU staff prepared video and written education that was made available to the national and international healthcare community



No Hierarchy... & Lots of Tools

- ▶ PPE
 - > Active donning & doffing roles
 - > Visual tools and checklists
 - > Competency checklists





Donning Partner

- Ensures PPE is donned correctly and performs a safety check with the person being donned
- > The donning partner may don more than one person at a time.







Doffing Partner

- Assists the doffer with removing PPE
- Wears the same level of PPE as the doffer
- Supports the health care provider as needed





Staff Engagement

- > Lead by Example
 - Shared Governance
 - > Relationship Based Care
- > Communication
 - Daily team briefing
 - Daily huddle communication (verbal and emailed)
- Standard Operating Procedures (SOPs)
 - Staff Ownership



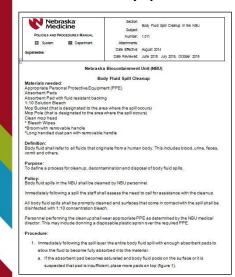
Plan, Practice, Learn and Adapt for your unique situation





SOP: Spill Clean Up

> It's not always planned





Deceased Management SOP



Appropriate PPE
Hospital Cart
3 Mortuary Bags
Thermal Sealer
Scissors
Camera
Hand Sanitizer
Medical Waste Bags
Zip Tie for locking the final mortuary bag





Deceased Care SOP

Transferring from the care room to the mortuary bag



Write information on the bioseal with permanent marker



Create a bridge between the care bed and the cart with a slider board: the bed and cart <u>do not touch.</u>

Once the sealed remains are transferred onto the cart, pull the slider board into the care room.



Lessons Learned~ during activation

- Incident Command structure was important
- Bricks and mortar may need adjustments
- ➤ Daily briefings assured everyone on same page and provided touch point with all team members
- Problem solving was constant
- Backfilling of staff pulled to NBU is key
- Leadership matters
- Interdisciplinary teamwork was essential
- Temperature monitoring of staff was initially overwhelming
- No cost structures exist
- 9 years helped....

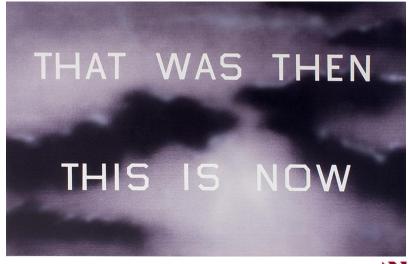


Unanticipated Rewards

- The formation of a cohesive team who can trust each other with their lives.
- ➤ The empowerment of nurses to adapt and implement new policies and procedures in order to provide innovative care in a safe way.
- Safe provision of care for three Ebola infected patients with no staff exposures.
- Provide education and training to colleagues from around the world.
- Provide once in a lifetime experience for many nurses and ancillary staff.







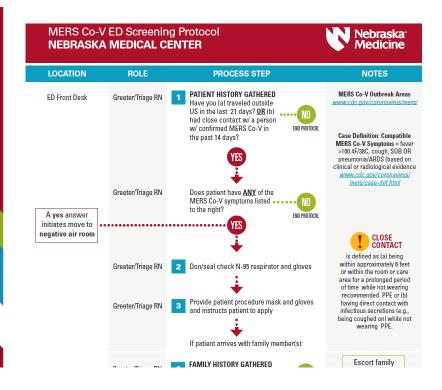


MERS Co-V History

- Discovered: 2012 in Saudi Arabia (new to humans)
- Outbreak: Arabian Peninsula & The Republic of Korea (S. Korea)
- Transmission: Contact with respiratory secretions (coughing)
- Symptoms: Fever, cough, & shortness of breath
- Incubation: 2-14 days





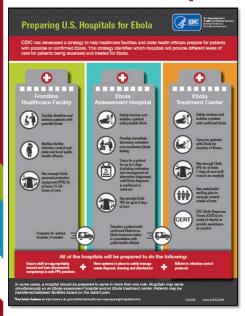


What's Different.....

- ✓ Screening
- ✓ PUI Care & Physical Space Requirements
- ✓ Laboratory Requirements and Process
- ✓ PPE Considerations
- ✓ Waste Management
- ✓ Healthcare Worker Monitoring



National Perspective



- Frontline healthcare facilities
- Ebola assessment hospitals
- Ebola treatment centers



www.netec.org





Questions?



